THE CLAIMS

What is claimed is:

1. An information recording system, comprising:

a storage medium having a plurality of adjacent tracks, each of the adjacent tracks include a plurality of storage elements that are arranged substantially along each respective track in substantially a regular manner; and

a head disposed in proximity to the storage medium and having a width that substantially spans at least two adjacent tracks.

2. The information recording system according to claim 1, wherein the storage medium is a magnetic storage medium, and the head is a magnetic head.

3. The information recording system according to claim 2, wherein each track is located substantially in a plane within the storage medium, and

wherein at least one storage element is a magnetic domain storage element that is substantially perpendicular to the plane in which the track in which the storage element is arranged is substantially located.

4. The information recording system according to claim 2, wherein each track is located substantially in a plane within the storage medium, and

wherein at least one storage element is a magnetic domain storage element

that is substantially parallel to the plane in which the track in which the storage element is substantially located.

5. The information recording system according to claim 2, wherein at least a portion of the magnetic storage medium is patterned.

6. The information recording system according to claim 2, wherein the magnetic storage medium is a perpendicular magnetic storage medium.

7. The information recording system according to claim 2, wherein each track has an associated along-track direction,

wherein the storage elements are further arranged substantially along first and second axes, the first axis being substantially perpendicular to the second axis, and

wherein the first and second axes are each locally substantially 45° from the respective along-track directions of the tracks.

8. The information recording system according to claim 7, wherein the along-track direction of the tracks is a circle.

9. The information recording system according to claim 7, wherein the along-track direction of the tracks is a spiral.

10. The information recording system according to claim 2, wherein each adjacent track spanned by the head has a different phase.

11. The information recording system according to claim 2, wherein the magnetic storage medium has an areal density of at least about 64 Gbit/in^2.

12. The information recording system according to claim 2, wherein the magnetic storage medium has an areal density of at least about 128 Gbit/in^2.

13. The information recording system according to claim 2, wherein the magnetic storage medium has an areal density of at least about 256 Gbit/in^2.

14. The information recording system according to claim 2, wherein the magnetic storage medium is a magnetic disk.

15. The information recording system according to claim 2, wherein the magnetic storage medium is a magnetic tape.

16. The information recording system according to claim 2, wherein the magnetic storage medium is a magnetic strip.

17. The information recording system according to claim 2, wherein the information recording system is part of a magnetic medium disk drive.

18. The information recording system according to claim 1, wherein the storage medium is an optical storage medium, and the head is an optical head.

19. The information recording system according to claim 18, wherein at least a portion of the optical storage medium is patterned.

20. The information recording system according to claim 18, wherein each track has an associated along-track direction,

wherein the storage elements are further arranged substantially along first and second axes, the first axis being substantially perpendicular to the second axis, and

wherein the first and second axes are each locally substantially 45° from the respective along-track directions of the tracks.

21. The information recording system according to claim 20, wherein the along-track direction of the tracks is a circle.

22. The information recording system according to claim 20, wherein the along-

track direction of the tracks is a spiral.

23. The information recording system according to claim 1, wherein the head reads information from at least two adjacent tracks spanned by the head.

24. The information recording system according to claim 1, wherein the head writes information to at least two adjacent tracks spanned by the head.

25. The information recording system according to claim 1, wherein the plurality of adjacent tracks is formed by at least one spiral-shaped track.

26. The information recording system according to claim 1, wherein the plurality of adjacent tracks is formed by a plurality of concentric tracks.